I. Summary of the Invention

Embodiments of the invention provide a system and method to overcome existing shortcomings, such as relatively limited interaction, lack of exchange of timing and synchronization information, between Web browsers and media players. Embodiments of the invention allow seamless integration of third party media players into a Web browser by providing a software architecture that allows a Web browser to host a generic media player.

According to one aspect of the invention, a media player implements various interfaces to enable its seamless integration with a Web browser. The various interfaces include, but are not limited to, player lifetime management interfaces and timing interfaces for exchanging timing information between content, the media player, and the Internet browser hosting the media player. The various interfaces also include playback control interfaces for controlling media playback and rendering interfaces used by rendering media players to render media content. The various interfaces further include playback synchronization interfaces for communicating timing information between a media player and a Web browser. The player lifetime management interfaces, playback control interfaces, and rendering interfaces are generally directed toward object management. The timing interfaces and the playback synchronization interfaces are generally directed toward timing synchronization of multimedia content. In particular, under certain circumstances, the playback synchronization interfaces allow a host computer to provide timing information to content presented in an HTML page. The playback synchronization interfaces also provide methods that allow multiple media players presented on a page to synchronize with each other or with other timed content.

Another aspect of the invention provides a player-hosting peer component to manage media player hosting. The player-hosting peer component typically is implemented in software and built into a Web browser. The player-hosting peer component may negotiate playback state

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and rendering status between a Web browser and a media player. The player-hosting peer component and the media player may perform state transitions to keep a Web browser and one or more media players coordinated and synchronized while displaying or rendering multiple potentially disparate types of content that may be incorporated into a single document.

Another aspect of the invention may also provide an infrastructure named as a proxy layer. The proxy layer extends the timing and synchronization functionality existing in the context of a Web browser and a media player internal to the Web browser to the context of a Web browser and a media player that is external to the Web browser.

II.   Summary of the Cited Reference Jensen

Jensen purportedly teaches a system and method for creating a multimedia presentation and for searching through the presentation to retrieve and display desired subject matter within the presentation. Jensen teaches a software that relies on a set of event data maintained separately from any of the media files presented during the presentation to maintain synchronization among the media files.

More specifically, Jensen teaches a method of displaying data to a recipient. The displaying of data commences at a pre-selected position. The current position of the display is determined. The current position is then compared with a set of event data. A selected digital asset is displayed based on the comparison of the current position with the event data. A timeout is calculated based on the current position and the event data. A clock is set to fire upon reaching the timeout. Once the clock fires, a polling process is initiated to determine the position of the display. A new digital asset is then displayed based on a comparison of the determined position within the event data. Finally, a new timeout is calculated and the clock is reset to fire upon reaching the new timeout.

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Therefore, nowhere does Jensen teach integrating a generic media player into a Web browser. Nor does Jensen teach multiple interfaces used to accomplish this integration. Nor does Jensen teach a player-hosting peer component for integrating media players with a Web browser.

III.   Claims Distinguished

A.   Rejection of Claims under 35 U.S.C. § 102(e)

The Office Action rejected Claims 1-32, 37-51, and 53-54 under 35 U.S.C. § 102(e) as being anticipated by Jensen. As indicated by the above summaries, Jensen teaches a mechanism for creating a multi-media presentation and maintaining synchronization among media files included in the presentation. Applicant's invention, on the other hand, provides a mechanism for integrating generic media players into a Web browser. In this regard, Claim 1, at its present form, reads as follows:

> 1.   A system for synchronizing playback of media content with other content or with host computer time information, the system comprising:
>
> a web browser for providing a timing representation to a media player;
>
> a media player implementing a first interface for object management and a second interface for exchanging timing and synchronization information with the web browser, and
>
> a player-hosting peer within the web browser for negotiating a playback state and a rendering status between the media player.

Therefore, Claim 1 clearly recites a media player, a Web browser for providing a timing representation to the media player, and a player-hosting peer within the Web browser for negotiating a playback state and a rendering status between the browser and the media player. Jensen does not teach any of the subject matter recited in Claim 1. Specifically, Jensen does not teach a Web browser for providing a timing representation to a media player. Applicants cannot

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locate any pertinent subject matter in the portion of Jensen (Col. 6, lines 39-40) cited by the Office Action. In this portion of text, Jensen teaches that the multimedia presentation created by Jensen's invention can be viewed in a conventional Web browser. Nowhere does Jensen teach a Web browser for providing a timing representation to a media player.

Similarly, nowhere does Jensen teach a media player implementing a first interface for object management and a second interface for exchanging timing and synchronization information with the Web browser. Applicants cannot locate any pertinent subject matter in the portions of text in Jensen (Col. 9, lines 57-60; Col. 10, line 62 through Col. 11, line 8) cited by the Office Action. In these portions of text, Jensen teaches that slides in a presentation are sequentially displayed along with any corresponding audio clips for the respective slides; Jensen also teaches an event handling software controls a machine to determine which slide to present on the machine. Nowhere does Jensen mention a media player implementing a first interface for object management, not to say a second interface for exchanging timing and synchronization information with the Web browser.

Furthermore, nowhere does Jensen teach a player-hosting peer within the Web browser for navigating a playback state and a rendering status between the browser and the media player. Applicants have not been able to locate any pertinent subject matter in the portion of text in Jensen (Col. 10, line 50 through Col. 11, line 42) cited by the Office Action. In this portion of text, Jensen teaches an event handling software that controls the navigation through a presentation on a machine. The software uses a set of event data containing all the information relating to the timing of the presentation. For example, the event data can include information concerning when to start and stop each slide page in the presentation. Nowhere does Jensen teach specifically a player-hosting peer within a Web browser for negotiating a playback state and a rendering status between the Web browser and a media player. A presentation is not a

media player. A machine is not a Web browser. And the event handling software does not function as the player-hosting peer within a Web browser for negotiating with a media player.

As a result, Jensen does not teach the subject matter recited in Claim 1. Applicants respectively submit that Claim 1 and all the claims dependent therefrom rejected in view of the teachings of Jensen (Claims 2-34 and 37-38) are allowable in view of the teachings of Jensen. Applicants further submit that these dependent claims are allowable for reasons in addition to the reasons why Claim 1 is allowable. For example, Claim 37 recites a proxy layer for passing synchronization information and/or commands between a Web browser and an external media player. As noted above, Jensen does not teach integrating a Web browser with a media player, regardless whether the media player is internal to the browser or external to the browser. Applicants have not been able to locate any pertinent subject matter in the portion of text in Jensen (Col. 5, lines 8-25) recited by the Office Action. In this portion of text, Jensen teaches creating a single executable file using the selected screen slides, corresponding audio files, text files, and the file containing the timing information for the presentation. The executable file can then be used for subsequent viewing of the presentation. That is, the executable file includes the presentation itself. Nowhere does Jensen teach that the executable file functions as a proxy layer for passing synchronization information and/or commands between a Web browser and an external media player. Thus, applicants submit that Claim 37 is allowable for reasons in addition to the reasons why Claim 1 is allowable.

The independent Claim 39 teaches a method of synchronizing playback of media content with other content or with host computer time information. At its present form, Claim 39 reads as follows:

> 39. A method of synchronizing playback of media content with other content or with host computer time information, the method comprising the steps of:

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providing a timing representation to a media player;

implementing a first media player interface for object management and a second media player interface for exchanging timing and synchronization information with a web browser; and

issuing commands from the web browser to the media player, the commands being directed to media player operations other than, and in addition to, instantiation of the media player; and

notifying the web browser of media player state changes.

Applicants submit that Claim 39 is allowable in view of the teachings of Jensen for substantially the same reasons that Claim 1 is submitted to be allowable. More specifically, Claim 39 recites providing a timing representation to a media player, implementing a first media player interface for object management and a second media player interface for exchanging timing and synchronization information with a Web browser, issuing commands from the Web browser to the media player, and notifying the Web browser of any media player state changes. Jensen does not teach such subject matter. As noted above while discussing Claim 1, Jensen teaches how to efficiently create a multimedia presentation, as well as how to retrieve and display desired subject matter within the presentation. Nowhere does Jensen teach synchronization between a media player and a Web browser. For example, Jensen does not teach implementing a first media player interface for object management and a second media player interface for exchanging timing and synchronization information with a Web browser. Applicants cannot locate any pertinent subject matter in the portions of text in Jensen (Col. 9, lines 57-60; Col. 10, line 62 through Col. 11, line 8) cited in the Office Action. As noted above while discussing Claim 1, in these portions of text, Jensen teaches displaying a presentation and using an event handling software to determine the current position of the presentation. Nowhere does Jensen teach implementing two media player interfaces, one for object management and one for exchanging timing and synchronization information with a Web browser.

As a result, Jensen does not teach the subject matter recited in Claim 39. Applicants respectfully submit that Claim 39 and all of the claims dependent there from (Claims 40-54) are clearly allowable in view of the teachings of Jensen.

B.   Claims Rejected Under 35 U.S.C. § 103(a)

The Office Action rejected Claims 35, 36, and 52 under 35 U.S.C. § 103(a) as being unpatentable over Jensen. Applicants respectfully disagree. Claim 35 recites that the Web browser is operating in a television set top environment. As noted above when discussing Claim 1 and Claim 39, Jensen does not teach a Web browser in the manner recited by applicants' invention, that is, for integrating media players native to, or external to, the Web browser. Jensen does not teach the limitations provided by Claim 1, from which Claim 35 depends. Therefore, even if it is obvious for one of ordinary skill in the art to implement a Web browser in a television set top environment, because Jensen does not teach a Web browser for providing a timing representation to a media player, Jensen does not teach the Web browser recited in Claim 35. Therefore, Claim 35 is allowable.

Dependent Claims 36 and 52 depend from Claims 1 and 39, respectively. Both Claims 36 and 52 recite that the other content that the playback of media content can be synchronized with includes advertising or other commercial content. The Office Action correctly concludes that Jensen fails to teach the subject matter recited in Claims 36 and 52. The Office Action, however, considered it is obvious to one of ordinary skill in the art to use advertising content for synchronization with the media content. Applicants categorically disagree. Further, even if it is obvious for one of ordinary skill in the art at the time of invention to use advertising content for synchronization, because Jensen fails to teach the subject matter recited in Claims 1 and 39, Jensen does not teach the subject matter included in Claims 36 and 52. Therefore, Claims 36 and 52 are allowable.

CONCLUSION

In summary, applicants respectfully submit that all the claims in this application are clearly allowable in view of the teaching of Jensen. As a result, applicants respectfully request that all of the claims remaining in this application be allowed and this application passed to issue.

If the Examiner has any questions, he is invited to contact applicants' attorney at the number set forth below.

Respectfully submitted,

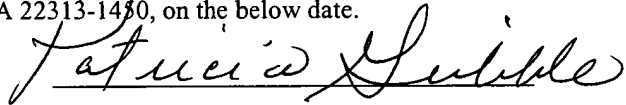CHRISTENSEN O'CONNOR
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I hereby certify that this correspondence is being deposited with the U.S. Postal Service in a sealed envelope as first class mail with postage thereon fully prepaid and addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the below date.

Date: _Sept. 16, 2005_

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